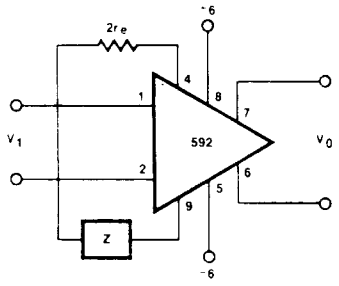
## TYPICAL APPLICATIONS

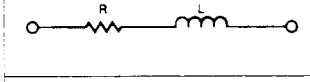
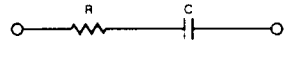
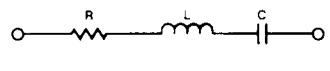
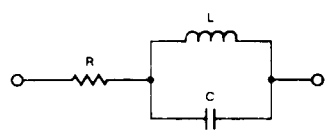
### FILTER NETWORKS




$$\frac{V_0(s)}{V_1(s)} \cong \frac{1.4 \times 10^4}{Z(s) + 2r_e}$$

$$\cong \frac{1.4 \times 10^4}{Z(s) + 32}$$

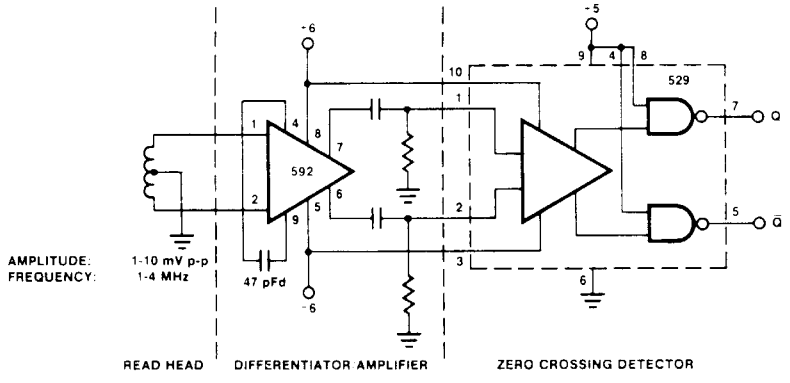
BASIC CONFIGURATION

| Z NETWORK | FILTER TYPE | $V_0(s)$ TRANSFER $V_1(s)$ FUNCTION |
|---|---|---|
|  | LOW PASS | $\frac{1.4 \times 10^4}{L}\left[\frac{1}{s + R/L}\right]$ |
|  | HIGH PASS | $\frac{1.4 \times 10^4}{R}\left[\frac{s}{s + 1/RC}\right]$ |
|  | BAND PASS | $\frac{1.4 \times 10^4}{L}\left[\frac{s}{s^2 + R/L\ s + 1/LC}\right]$ |
|  | BAND REJECT | $\frac{1.4 \times 10^4}{R}\left[\frac{s^2 + 1/LC}{s^2 + 1/LC + s/RC}\right]$ |

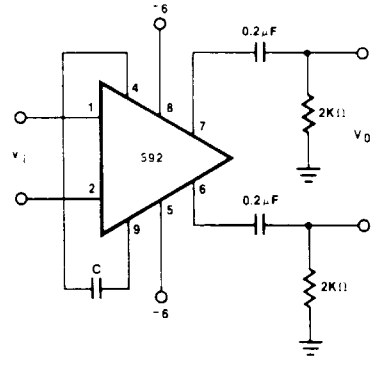
NOTE

In the networks above, the R value used is assumed to include $2r_e$, or approximately 32Ω.

### DISC/TAPE PHASE MODULATED READBACK SYSTEMS




### DIFFERENTIATION WITH HIGH COMMON MODE NOISE REJECTION

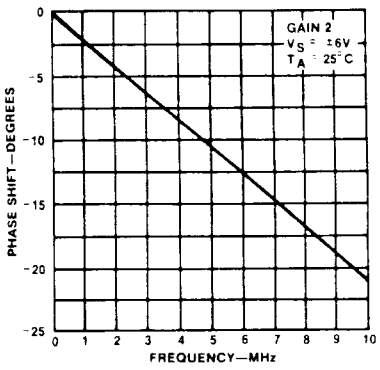



FOR FREQUENCY $F_1 \ll 1/2\ \pi\ (32)\ C$

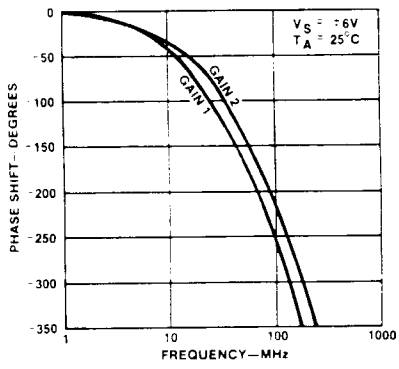
$V_0 \cong 1.4 \times 10^4 C \frac{dV_i}{dT}$

## TYPICAL PERFORMANCE CHARACTERISTICS (Cont'd)

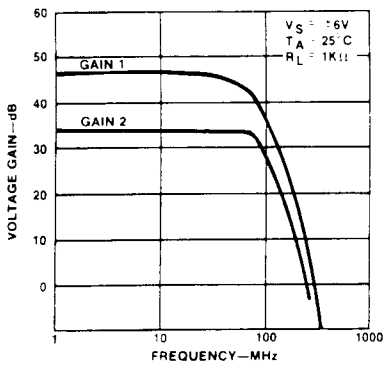
### PHASE SHIFT AS A FUNCTION OF FREQUENCY



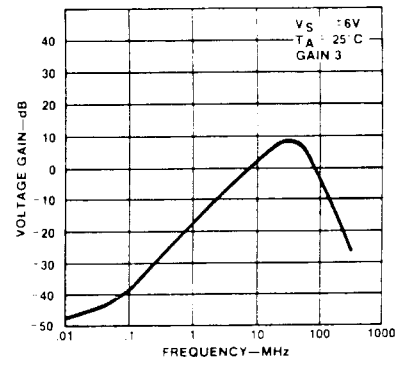

### PHASE SHIFT AS A FUNCTION OF FREQUENCY




### VOLTAGE GAIN AS A FUNCTION OF FREQUENCY

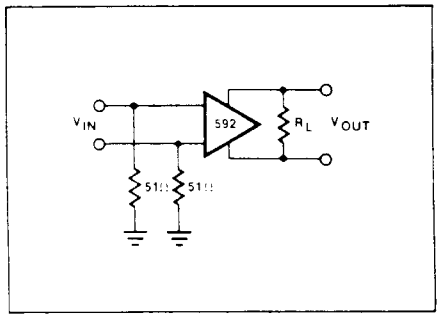


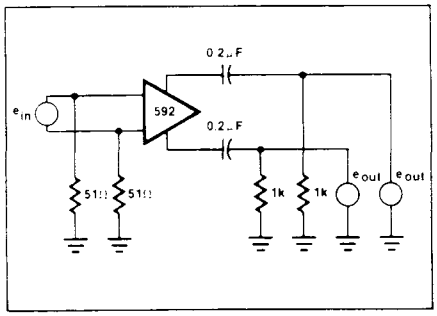

### VOLTAGE GAIN AS A FUNCTION OF FREQUENCY (ALL GAIN SELECT PINS OPEN)




## TEST CIRCUITS

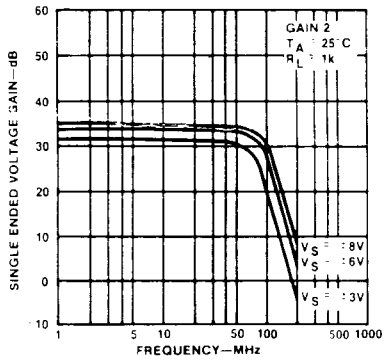
$T_A$ = 25°C unless otherwise specified



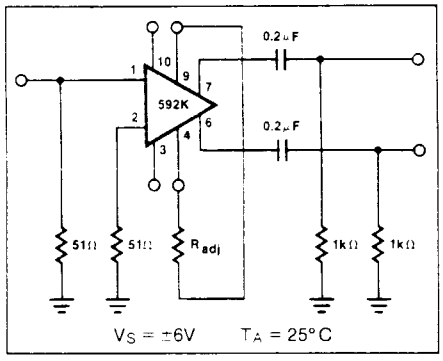



## TYPICAL PERFORMANCE CHARACTERISTICS (Cont'd)

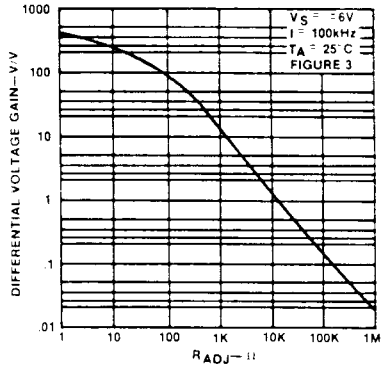
### GAIN vs FREQUENCY AS A FUNCTION OF SUPPLY VOLTAGE



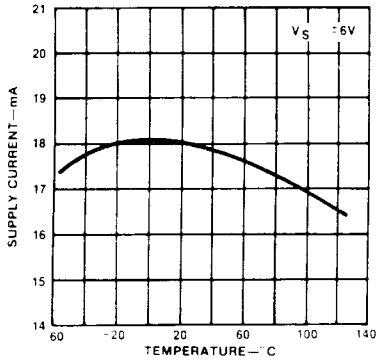

### VOLTAGE GAIN ADJUST CIRCUIT



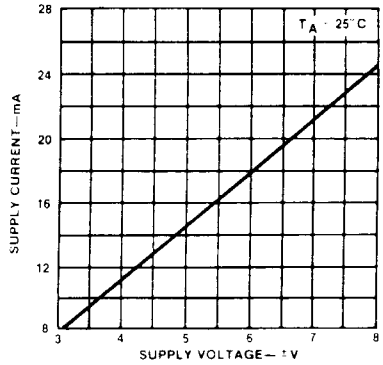

### VOLTAGE GAIN AS A FUNCTION OF RADJ (FIGURE 3)



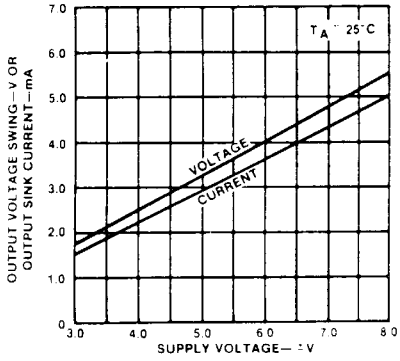

### SUPPLY CURRENT AS A FUNCTION OF TEMPERATURE



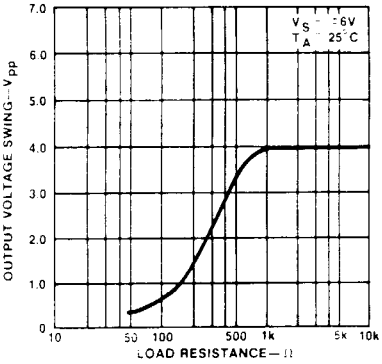

### SUPPLY CURRENT AS A FUNCTION OF SUPPLY VOLTAGE



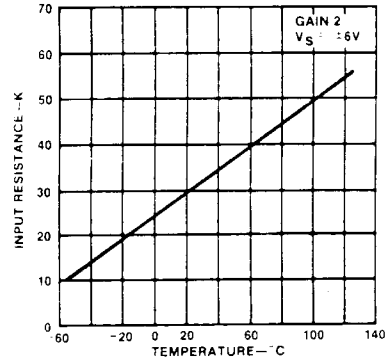

### OUTPUT VOLTAGE AND CURRENT SWING AS A FUNCTION OF SUPPLY VOLTAGE



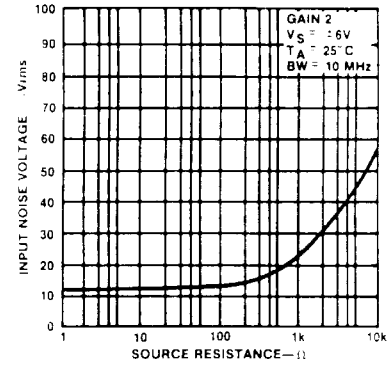

### OUTPUT VOLTAGE SWING AS A FUNCTION OF LOAD RESISTANCE




### INPUT RESISTANCE AS A FUNCTION OF TEMPERATURE

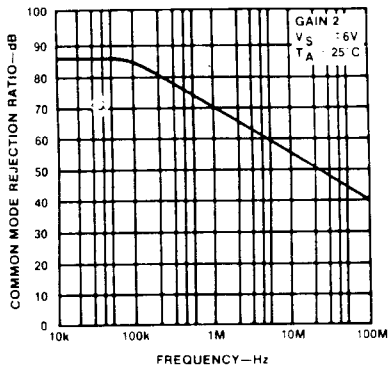



### INPUT NOISE VOLTAGE AS A FUNCTION OF SOURCE RESISTANCE

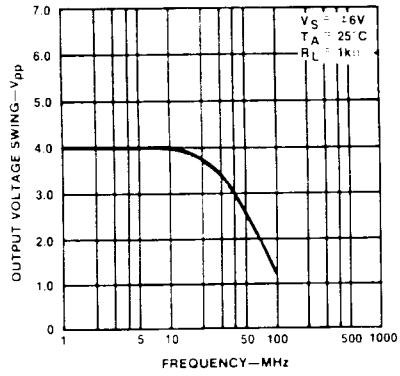


## TYPICAL PERFORMANCE CHARACTERISTICS

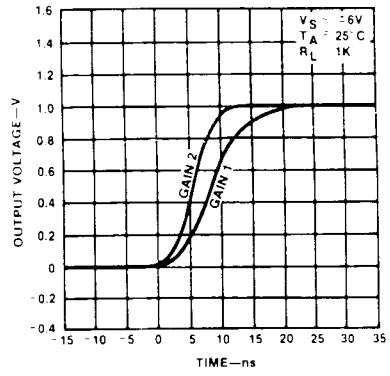
### COMMON MODE REJECTION RATIO AS A FUNCTION OF FREQUENCY



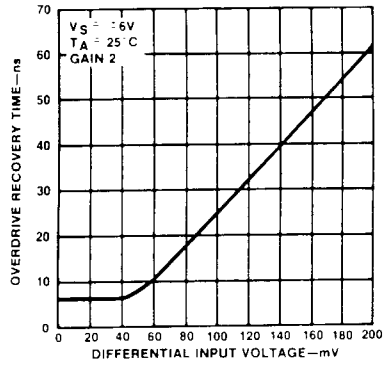

### OUTPUT VOLTAGE SWING AS A FUNCTION OF FREQUENCY



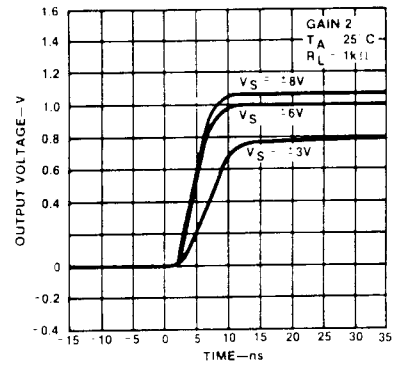

### PULSE RESPONSE



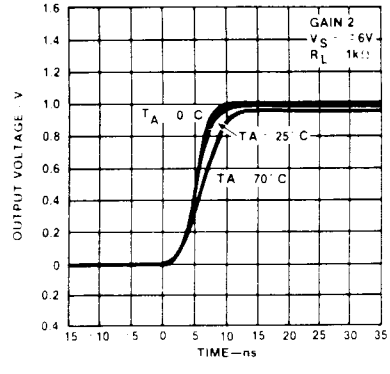

### DIFFERENTIAL OVERDRIVE RECOVERY TIME



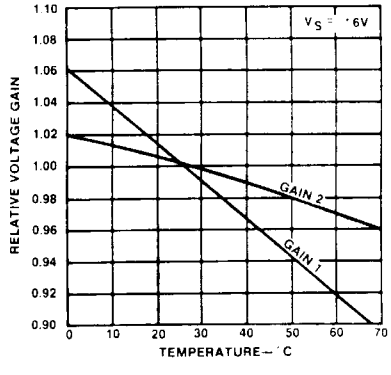

### PULSE RESPONSE AS A FUNCTION OF SUPPLY VOLTAGE



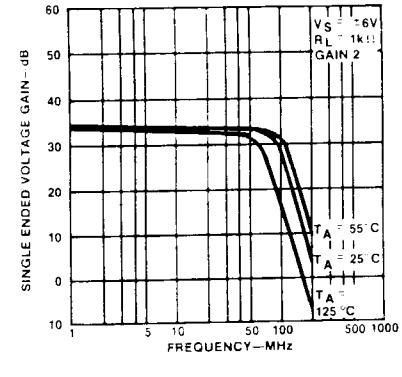

### PULSE RESPONSE AS A FUNCTION OF TEMPERATURE




### VOLTAGE GAIN AS A FUNCTION OF TEMPERATURE




### GAIN vs FREQUENCY AS A FUNCTION OF TEMPERATURE




### VOLTAGE GAIN AS A FUNCTION OF SUPPLY VOLTAGE